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ABSTRACT

A Health Belief Model (HBM) based educational intervention intended to increase adolescents' fertility control through abstinence or effective contraceptive usage was implemented and evaluated by pre-intervention interviews with 203 adolescents and post-intervention interviews with 146 adolescents. Participants' sexuality-related knowledge and attitudes were assessed 1 to 7 days before the program, on the day immediately after the program, and 3 to 6 months after completion of the program. Evaluation instruments tapped the four major perceptual components of the HBM: susceptibility to pregnancy, seriousness of pregnancy, interpersonal benefits of contraceptive usage, and barriers to contraceptive usage. Comparisons of pre- and posttest data revealed that the HBM intervention produced modest, but statistically significant changes in the health belief perceptions of participants and produced substantial changes in sexuality and contraceptive knowledge. There were also modest, but statistically significant increases in reported contraceptive usage following the program. Most importantly from a HBM perspective, the findings demonstrated substantial relationships between some health beliefs, sexual knowledge, and subsequent contraceptive usage for those adolescents who were or became sexually active following the program. (NRB)

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Health Belief Model-Based Changes in Sexual Knowledge, Attitudes and Behavior[1]

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Introduction

Previous presentations briefly outlined the rationale, development, content and training for a HBM-based educational intervention intended to increase adolescents' fertility control through abstinence or effective contraceptive usage.

The present paper and Falbo and Eisen's paper, which will follow, report the main lines of our initial evaluation. The pilot phase of the project had four primary objectives:

(1) To develop, field, and evaluate a community-based educational intervention framed in terms of the HBM components to serve as a primary prevention mechanism.

(2) To produce increases in participants' personal perceptions of a) their susceptibility to pregnancy; b) the serious consequences of premarital pregnancy; c) the benefits of contraceptive usage (or abstinence); and d) knowledge of sexual, contraceptive and venereal disease for program participants and conversely; e) to produce decreases in their perception of barriers to effective contraceptive usage.

(3) To develop a curriculum and delivery mechanism that could be targeted to both females and males, to 13-17 year olds and to teenagers from the major ethnic and racial groups represented in the state (i.e., Anglos, Blacks and Hispanics).

(4) To determine the relationships (if any) among post-intervention knowledge, HBM-oriented perceptions and fertility control (especially contraceptive usage among those who were sexually active).

Historically, the HBM has been conceptualized as a mediational cognitive model which, in principle, should provide perceptual linkages to specific efficacious preventive behaviors. Assuming that contraceptive usage is a quintessential preventive behavior, it was hypothesized that increases in perceived susceptibility, seriousness and benefits, as well as decreases in perceived barriers to fertility control would be associated with self-reported increases in contraceptive usage three to six months after the educational intervention.

In addition, because most previous studies on unintended adolescent pregnancy suggest that lack of appropriate sexual and contraceptive knowledge is related to non-usage of contraception, we hypothesized that increased knowledge derived from the program would also be associated with reported increases in contraceptive usage.

Method

Participants: Two hundred and three adolescents (126 females, 77 males) ranging in age from 12 to 18 years (x=15.5) participated in the pre-intervention individual interview. Of these, 45% were Anglo, 28% Black, and 28% were Hispanic. The immediate post-intervention survey was completed by 146 adolescents (87 females, 58 males). Of those, 55% were Anglo, 21% Black, and 24% were Hispanic (see Table 1 for further background characteristics). Participants were recruited from a variety of sources in Austin and San Marcos, Texas. Recruitment methods included the use of flyers given out by family planning services workers in the various places adolescents frequent, direct referral by county health department neighborhood workers, neighborhood and public high school newspaper ads, direct mail-outs to Texas Department of Human Resources clients, visits to local church and youth groups, direct

mail-outs to participants of a local television dance show, and arrangements with a public high school's health education program. Parental permission to participate was a requirement set by both the University and the Texas Department of Human Resources IRBs.

Procedure and Design: The study used a short-term longitudinal design. Participants' sexuality-related knowledge and attitudes were assessed three times during the study period: (1) one to seven days before the educational program, (2) on the same day immediately after the program, and (3) 3-6 months after the program was completed. Self-reports of their sexual and fertility control behaviors were collected twice: (1) before the program started and (2) 3-6 months afterwards. Thus, potential changes in teenagers' knowledge, attitudes and behaviors were assessed over the 3-6 month study period in this pilot intervention development (no control) phase of the demonstration project. Participants were paid $20 for their full participation ($5 for the pre-intervention interview, $5 for the immediate post-intervention quiz and $10 for the 3-6 month post-intervention follow-up interview).

Materials: To guide curriculum development and to assess the program's potential impact on teenagers, we modified others' process and outcome evaluation measures or wrote new materials. These included items intended to tap the four major perceptual components of the HBM discussed previously. The specific items appear in Table 2. Adolescents responded to them in terms of a 5-point rating scale ranging from strongly agree to strongly disagree with the mid-point being not sure (with one exception - see item #3 in Table 2). Also, we included items to assess reproductive physiology knowledge (15 items, e.g., "Most teenage boys have such a strong need for sex that they must have it or they can go crazy"), birth control and contraceptive knowledge (20 items, e.g., "What is something that is placed in the vagina that kills sperm?"), and

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venereal disease knowledge (15 items. e.g., "You are over VD when the symptoms are gone"). These items included True/Not Sure/False, Matching, Ranking, and Listing formats. Sexual and fertility control behavior dependent variables included self-reports of sexual intercourse, use of birth control or contraception at first and last intercourse, consistent usage, seeking specialized fertility control information, enrollment in a family planning program, pregnancy or responsibility for pregnancy, and ceased or reduced level of sexual activity.

Plan of Analysis: In accordance with the pilot project objectives and the HBM conceptual framework, the basic evaluation questions were reasonably straightforward. Using available data and various multivariate and non-parametric techniques, we tried to address the following questions:

(1) Was there differential recruitment and participant retention with respect to gender, age and racial/ethnic background? (See Table 1.)

(2) Were reasonably reliable scales developed to measure the major components of the HBM and permit assessment of construct validity? (See Table 2.)

(3) Were there significant increases in adolescents' perceived susceptibility, perceived seriousness, perceived benefits and in sexual and contraceptive knowledge, as well as decreases in perceived barriers following exposure to the educational program? (See Table 3.)

(4) If there were significant overall differences, were there potentially important gender, age or race/ethnicity differences in participants' post-intervention health beliefs or sexual and contraceptive knowledge scores? (See Tables 4 and 5.)

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(5) Were there significant changes in reported contraceptive usage from pre- to post-intervention among sexually active teenagers? (See Table 6a.)

(6) Were there significant associations between immediate post-intervention health beliefs, knowledge and reported contraceptive usage at the time of the 3-6 month follow-up among those teenagers who were sexually active? (See Table 6b.)

Results

Recruitment and Retention: Our original plan called for recruitment of approximately 250 participants, to be about equally divided by gender, age (13-17) and race/ethnicity, but unselected with respect to sexual activity status. Because we recruited from a relatively mobile population and programmed for each participant to attend six sessions (2½ hours each) over a 2-3 week period, and to then be reinterviewed some 3-6 months later, we estimated a 50% retention rate at the follow-up. As can be seen from the left half of Table 1, in terms of numbers and percentages, the distribution of participants recruited fell short of expectations. Of the 203 teenagers who were interviewed initially, about 2/3 were female, approximately 3/4 were younger adolescents (13-15) and almost ½ were white. Minorities were overrepresented relative to their proportions in the Austin and San Marcos area, but we had hoped to oversample these groups more extensively if possible. About 1/3 of the sample reported that they had experienced sexual intercourse and of that group, over ½ said that they "always" used contraception. Inspection of pre-intervention interview data indicated that condoms, withdrawal and rhythm were the methods reported as used most frequently.

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The right half of Table 1 indicates characteristics of those teenagers (N=146, 72%) who completed the educational program and took the (immediate) post-tests. Inspection of the table suggests that relatively few demographic and sexuality-related characteristics marked pre-program interviewees from program completers. Of the 146 teenagers who completed the program, 120 (82%) have been reinterviewed 3-6 months later (see Table 6a). Thus overall, some 60% of the teenagers who were recruited completed the entire pilot data collection.

HBM Scale Construction: Factor analysis of teenagers' pre-interview responses to the 22 items used to assess HBM concepts yielded five factors accounting for about 57% of the variance. Item content, factor loadings and internal consistency reliability estimates (standardized Alphas) are presented in Table 2. Factor naming, always somewhat of a projective exercise, did not diverge appreciably from the HBM conceptual framework. Item groupings appear to suggest a Susceptibility-Instrumental Contraceptive Behavior factor (five items); a Seriousness-Responsible Contraceptive Behavior factor (four items); an Interpersonal Benefits factor (five items); and two Barriers factors -- Ideological-Structural Barriers (five items) and Realistic-Practical Barriers (three items). The first of these latter two appeared to encompass more abstract barriers such as morality and psychological states, while the last of these two Barrier factors suggested more practical problems such as general efficacy of prevention and side effects of contraceptive methods. Items were judged to have sufficient face validity and variability to simply algebraically sum them, after recoding to maintain the appropriate direction, to achieve five Health Belief scale scores. All scales thus constructed achieved internal consistency reliabilities $\geq .50$ (range: .56 - .82), a recommended standard for group comparisons and subsequent assessments of construct validity.

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Because sexual, contraception and venereal disease content domains were nested in substantial format/structural differences (e.g., reproductive knowledge assessed by True/False; contraception effectiveness evaluated by ranking; contraception methods characteristics assessed by matching; etc.), knowledge test items were not factor analyzed and specific subscales were not constructed for this initial evaluation. Correct answers to each of the 50 items were simply summed to achieve a total knowledge score for each participant.

Prior to assessing the potential impact of the educational intervention on participants' initial health beliefs and sexuality-related knowledge, we examined differences in pre-intervention health belief scale scores and knowledge scores for teenagers who completed the program and those who did not finish. There were no statistically significant differences on any of the five health belief scales, but program drop-outs scored significantly lower on pre-test sexual, contraceptive and VD knowledge. A discriminant analysis that included most of the background and sexuality variables from Table 1, as well as knowledge and health belief scores, indicated that being a minority teenager -- Black or Hispanic -- was significantly associated with program attrition. Thus with pre-test knowledge and health beliefs controlled, Black and Hispanic teenagers were more likely to drop out of the program before completion than Whites.

Pre-Post-test Changes in Health Beliefs and Sexuality-Related Knowledge: In order to determine whether adolescents increased their perception of pregnancy susceptibility, seriousness of pregnancy, benefits of contraception, and decreased their perception of barriers to contraceptive usage following the educational program, five repeated measures analyses were performed (see Table 3). All changes were in the appropriate (and hypothesized) direction

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and all were statistically significant. However, only one of the health belief scale score changes was larger than half of a standard deviation: the score change for Ideological/Structural Barriers. Thus the psychological significance of these changes may be equivocal.

In contrast, there was a substantial change in overall sexuality-related knowledge following the educational intervention (see Table 3 also). The mean change score was greater than 10 points, which is more than one standard deviation and represents an average increase of more than 20% in scale scores (50 points maximum). Thus, there was a reasonably impressive increase in short-term knowledge over the three week program of lectures and small group discussions. Taken together, these significant changes in health beliefs and knowledge merit further exploration, especially with respect to potential differences in scores as a function of participants' gender, age, or race/ethnicity.

Pre-Post-test Differences and Participants' Characteristics: Table 4 presents regression (gain/loss score) analyses separately for each Health Belief Scale using subjects' demographic characteristics as predictors of post-test scores while controlling that specific scale pre-test score and subject characteristics by pre-test scores (i.e., pre-test and participant by pre-test interaction scale scores were entered first in each stepwise regression analysis). One relatively consistent pattern of relationship that emerged across all five scales: Hispanic teenagers perceived less serious consequences of pregnancy, less susceptibility to pregnancy ($p < .10$), and more barriers to contraceptive use than did Whites (the comparison or benchmark group). Interestingly, and somewhat anomalously, Hispanic teenagers perceived more interpersonal benefits to contraception. Blacks also perceived significantly greater Ideological-Structural barriers to contraception than

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did Whites. Older participants, as might be expected, perceived more susceptibility to pregnancy, but surprisingly, increasing age was significantly associated with perception of fewer interpersonal benefits of contraceptive usage. Finally, there were no significant relationships between gender and post-intervention health beliefs for any scales.

A similar gain analysis was performed on sexuality, contraception and VD knowledge post-test scores (see Table 5). Overall, participants of all ages and each racial/ethnic background gained in knowledge from pre- to post-test following the program. However, there was a significant (main) effect for gender and a gender x pre-test interaction when pre-test knowledge scores were controlled. Females scored higher than males and they gained more knowledge than males following the program even with pre-test scores controlled. In any case, there did not appear to be significant differences in knowledge gain between ages and ethnic groups, but there were unfavorable perceptual differences for Hispanic teenagers on two of the health belief scale dimensions.

Pre-Post-Intervention Changes in Reported Contraceptive Behavior: As can be seen from Table 6a, a large majority (62%) of those program participants reinterviewed three to six months after the program ended continued not to be sexually active. Of the 38 teenagers who reported that they were sexually active prior to the program, 79% reported that they used contraception at least "sometimes," including 34% who used it "always". Following participation in the program, again 38 adolescents (only 31 of whom were part of the original 38) reported that they were sexually active. In this group, 93% reported at least some contraceptive usage, including 53% who said they used contraception all the time (primarily condoms and foam). This latter group of

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"always" users included seven teenagers (out of eight) who had not been sexually active in the pre-intervention period.

To assess whether there were significant changes in contraceptive usage from pre- to post-intervention, the incidences of increased or (for those not active previously) newly initiated usage were tallied and compared with incidences of decreased or avoided usage by means of a Sign Test. The differences which resulted were highly significant ($p=.0017$). Increases were far more numerous than decreases and are reflected in the 34% (pre-period) vs. 53% (post-period) who reported that they always contracepted.

Finally, having shown that there were significant increases in reported contraceptive usage in the post-intervention period, we examined the possible relationships between program variables--health belief scales and sexuality-related knowledge--and contraceptive usage among those who were sexually active (N=38). Table 6b presents the results of the final regression model: Lower perceived Ideological-Structural Barriers to contraceptive usage is the best predictor of subsequent contraceptive usage and greater sexual knowledge is a marginally ($p<.10$) significant predictor when pre-intervention usage is controlled. Together these three variables accounted for about 49% of the variance in contraceptive usage scores.

The small number of sexually active teens in the follow-up sample precludes more complex regression models presently, but previous exploratory analyses indicated that with pre-intervention usage controlled, gender, age and race/ethnicity were not predictors of post-period contraceptive usage; nor were the other four health belief scales we constructed. Once again the most powerful predictor of subsequent contraceptive usage was lower perceived Ideological-Structural Barriers; which incidentally, was the health belief

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scale with the largest average pre- to post-intervention change score among program participants.

Discussion

This symposium has attempted to organize and present a substantial amount of information regarding the development, operationalization and evaluation of a HBM approach to increasing teenagers' contraceptive usage.

Rather than taking time away from the next presentation, from our discussant, or discussion from the floor with a traditional full discussion of our preliminary outcome evaluation findings, I would prefer to summarize the principal findings briefly, set forth some of the major limitations of the demonstration project thus far, and suggest implications for implementing the next phase--a controlled field study.

First, the four primary objectives of the pilot project were met for the most part. We were able to use HBM components to frame the development, fielding and evaluation of the educational intervention. We were able to produce modest, but statistically significant changes in health belief perceptions and substantial ones in sexuality and contraceptive knowledge. In general, our health belief-based curriculum and small group presentation mode appear to be equally applicable to participants in the targeted age range and to Whites, Blacks and Hispanics alike with some exceptions (some health beliefs of Hispanics changed less than did other groups and males' knowledge increased less than did females'). There was some difficulty in recruitment, especially among minorities and males--even when subjects were to be paid for their participation. There are probably many factors involved here, but two stand out initially: Participants were required to obtain parental permission to enroll and they had to commit about 15 hours over a three week period to

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interviewing and educational programming. The differential minority attrition may have occurred, in part, due to program components or structure, but also was attributable to logistical problems inherent in any non-school-based program (e.g., transportation, conflicting activities, part-time work conflicts, etc.).

Finally, there were modest, but statistically significant increases in reported contraceptive usage following the program. Most importantly from a HBM perspective, we were able to demonstrate substantial relationships between some health beliefs, sexual knowledge and subsequent contraceptive usage for those adolescents who were or became sexually active following the program. The changes in health belief perceptions and knowledge followed by increases in contraceptive usage are quite consistent with the HBM's cognitive mediational model. These changes lend encouragement to our efforts to continue into the next phase, the implementing of a controlled field study whereby teenagers would be randomly assigned to a HBM educational intervention or to a control intervention within participating community agencies, and subsequently followed for one year.

The present preliminary findings need to be tempered, of course, by consideration for the limitations imposed by the no-control group design; by the obvious self-selection factors associated with requiring parental permission and relatively heavy time commitments to participate, by the factor of subject payment, by cognizance of differential attrition; and finally, by considering the possible unreliability inherent in self-reported data collection, particularly pertaining to sexuality status and contraceptive usage where independent validity checks are often unavailable.

We hope to address many of these limitations in the controlled field study to follow. Indeed, we have plans to strengthen minority recruitment;

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better match minority group discussion leaders and lecturers with minority participants; rely less on school-like cognitively-oriented teaching, training and evaluation techniques; and reduce reliance on self-reports of sexuality-related behavior at least in some study sites.

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Table 1

Demographic and Sexuality Status Variables of Educational Intervention Enrollees: Pre-Interview (N=203) and Immediate Post-Intervention (N=145)

Variable	Pre-Interview		Post-Intervention	
	N	%[a]	N	%
Gender				
Females	126	62	87	60
Males	77	38	58	40
Age				
12	11	05	7	05
13	52	26	34	23
14	44	22	30	21
15	38	19	27	19
16	38	19	27	19
17	15	07	15	10
18	5	02	5	03
Ethnicity				
White	91	45	79	55
Black	56	28	31	21[b]
Hispanic	56	28	35	24[b]
Grade Level				
7	18	09	10	07
8	40	20	27	19
9	59	29	39	27
10	39	19	31	21
11	36	18	28	19
12	11	05	10	07
Had Family Life/Sex Education Class/Course				
yes	142	70	109	75
no	61	30	36	25
Been Sexually Active (Self-Reported)				
yes	69	34	51	35
no	131	65	91	63
missing	3	01	3	02
Used Contraception (Self-Reported)				
Always	19	28	15	30
Sometimes	35	51	24	47
Never	15	21	12	23

[a] Percentages may not add to 100 due to rounding.

[b] Significant Discriminator of Program Completion.

Table 2

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Health Belief Model Items Grouped by Construct and Factor Analysis Used to Assess Pregnancy and Contraception Perceptions (N=22 Items)

Construct	Content	Factor Loading	% Variance
Susceptability to Pregnancy and VD/Instrumental Behavior (Standardized Alpha = .70)	If you or your partner used no contraceptives, how likely is it that you/your partner would get pregnant?[a]	.68	
	With VD getting more common all the time, a teenager who worries about it is being realistic	.68	
	Using a contraceptive to prevent unplanned pregnancy is a good thing to do.	.57	
	Most teenage couples who don't use contraceptives wind up pregnant.	.55	
	If a guy has contraceptives available, a girl is more willing to agree to sex.	.52	10.2
Seriousness of Pregnancy/ Responsible Contraceptive Usage (Alpha = .68)	If a guy gets a girl pregnant, it's not a big problem since the partners can always get married.	.81	
	Unplanned pregnancy can be taken care of pretty easily with an abortion.	.73	
	If a teenage girl has an unplanned pregnancy, it's not a big problem since she can raise her baby alone.	.73	
	I believe contraception is an important part of responsible sexual behavior.	.40	6.0
Interpersonal Benefits of Contraceptive Usage (Alpha = .82)	If a guy makes sure that one of them is using contraceptives, his partner knows he really cares about her.	.82	
	If a male uses birth control, his partner knows he really cares about her.	.77	
	If a girl uses birth control, her partner will think she's really smart.	.70	
	The use of contraception improves a relationship.	.67	
	If a girl uses birth control, her partner will know she really cares about herself.	.65	21.6

Table 2 (continued)

Construct	Content	Factor Loading	% Var
Ideological/Structural Barriers to Contraceptive Usage (Alpha = .75)	The use of contraceptives makes sexual intercourse seem dirty.	.81	
	I have no religious or moral objection to contraception.	.76	
	The whole idea of birth control is embarrassing to me.	.70	
	If I wanted to get a good method of birth control, I know where to get it.	.69	
	It can sometimes be important to show your love by taking a chance on getting pregnant.	.46	
			14.1
Realistic/Practical Barriers to Contraceptive Usage (Alpha = .56)	Sometimes it seems that when you try to prevent problems, it is more trouble than it is worth.	.75	
	Having contraceptives with you makes it seem that you are planning to have intercourse.	.63	
	The side effects of the good birth control methods are a real problem.	.60	
			4.9

[a] Response categories are five points: (1) very likely to (4) very unlikely; (8)-not sure. All other items response categories are: (1) strongly agree to (4) strongly disagree; (8) -not sure

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Table 3

Changes in Sexual and Contraceptive Knowledge and Health Belief Scale Scores: Pre- to Post- Educational Intervention (N=145)

Scale[a]	Pre-Test Mean (SD)	Post-Test Mean (SD)	t-Value
Sexual and Contraceptive Knowledge	26.56 (9.95)	37.02 (7.56)	13.71***
Susceptibility to Pregnancy and VD/Instrumental Behavior	15.28 (1.87)	15.91 (1.81)	3.41***
Seriousness of Pregnancy/ Responsible Contraceptive Behavior	12.60 (2.17)	13.49 (1.97)	5.37***
Interpersonal Benefits of Contraceptive Usage	13.49 (2.30)	14.38 (2.99)	4.64***
Ideological/Structural Barriers to Contraceptive Usage	9.71 (2.39)	8.23 (2.64)	-7.58***
Realistic/Practical Barriers to Contraceptive Usage	7.93 (1.38)	7.49 (1.78)	-2.81**

[a]Scale is scored in direction of its name (i.e., high score = greater susceptibility, etc.).

**p < .01

***p < .001

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Table 4

(Final) Stepwise Regressions of Health Belief Scale Scores (Post-Test) on Selected Demographic and Pre-Test Health Belief Scores: Gain Analyses (N=146)

Variable	Susceptibility		Seriousness		Interpersonal Benefits		Ideological Barriers		Realistic Barrier	
	Beta	F-Value	Beta	F-Value	Beta	F-Value	Beta	F-Value	Beta	F-Valu
Pre-Test Scale	.366	19.38***	.511	41.46***	.626	86.14***	.535	60.19***	.236	7.78**
Age	-.160	3.88*	-.095	1.61	-.149	5.32*	.122	3.19	-.129	2.70
Gender	-.024	<1	-.110	2.44	-.028	<1	.083	1.75	.050	<1
Hispanic[a]	.152	3.31	-.189	6.50***	.129	3.91*	.286	18.77***	.247	9.02**
Black[a]	-.146	2.91	-.111	2.04	.023	<1	.329	25.03***	.162	3.27
	r^2 = .148		r^2 = .355		r^2 = .464		r^2 = .478		r^2 = .181	

[a] Relative to Whites (i.e., comparison group)

* $p < .05$

** $p < .01$

*** $p < .001$

Table 5

Stepwise Regression of Sexual and Contraceptive Knowledge Scores (Post-Test) on Selected Demographic and Pre-Test Knowledge Scores: Gain Analysis (N=146)

Variable	Step 1		Step 2		Step 3		R^2 Change
	Beta	F Value	Beta	F Value	Beta	F Value	F Value
Pre-Test	.487	43.74***	.385	18.18***	1.615	2.17*	
Age			.055	<1	.192	<1	
Gender			.092	1.49	.507	2.19*	
Black[a]			-.185	4.74*	.083	<1	1.88
Hispanic[a]			-.134	2.53	-.219	<1	
Age x Pre-Test					-.772	<1	
Gender x Pre-Test					-.612	4.05*	
Black x Pre-Test					-.282	1.80	3.00*
Hispanic x Pre-Test					.123	<1	

r^2 = .336

[a]Relative to Whites (i.e., comparison group)

*p < .05

***p < .001

Table 6a

Sexuality and Contraceptive Usage Status of Enrollees: Pre-Intervention and 3-6 Months Post-Intervention (N=120)

Pre-Intervention Status	Post-Intervention Status					
	Not Active	Always	Sometimes	Never	Ns	
Not Active	74	7+	0	1-	82	
Always Contraceptives	4	6	2-	1-	13	(34%)
Sometimes Contraceptives	1	7+	9	0	17	(45%)
Never Contraceptives	3	0	4+	1	8	(21%)
Ns	82	20 (53%)	15 (40%)	3 (07%)	(119)	

+ Initiated or Increased Contraceptive Usage

- Avoided or Decreased Contraceptive Usage

p = .0017 (Sign Test)

Table 6b

Regression of Contraceptive Usage (Post-Intervention) on Sexual and Contraceptive Knowledge Scores (Post-Test) and Health Beliefs (Post-Test) (N=38)

Variable	Beta	F-Value
Contraceptive Usage (Pre-Intervention)	.321	6.16***
Knowledge (Post-Test)	.268	3.01*
Ideological Barriers (Post-Test)	-.397	6.65***
	r^2 = .490	

* p < .10

*** < .01

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